

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-23. (Cancelled)

24. (New) A method for forming a core member for use in laminating to another core member to form a printed wiring board, comprising:

forming a first copper coating on a first side of a dielectric substrate, wherein the dielectric substrate is glass reinforced;

forming a second copper coating on a second side of the dielectric substrate, wherein the first and second sides are located on opposite sides of the dielectric substrate;

forming first and second holes, wherein each of the first and second holes extends through all three of the first copper coating, the dielectric substrate, and the second copper coating;

plating the first and second holes with a conductive metal to form a conductive path in each of the first and second holes between the first and second copper coatings, wherein the plating is performed using one of electroless or electrolytic plating;

filling the entirety of each of the first and second holes with a conductive adhesive by one of screening, stenciling, flood coating, doctor blading, immersing and injecting, wherein the conductive adhesive is heated to enhance its flow characteristics;

heating the conductive adhesive to about 130 degrees Celsius until the degree of cure of the conductive adhesive is advanced from about 20% to about 80% of complete cure;

removing a first sub-portion of the first and second copper coatings so that the conductive adhesive in the first and second holes extends beyond an entirety of a second sub-portion of the first and second copper coatings on both sides of the dielectric substrate in a direction away from the dielectric substrate, wherein the conductive adhesive in the first and second holes extends

beyond the entirety of the second sub-portion of the first and second copper coatings to form first and second nubs of the conductive adhesive;

removing the second sub-portion of the first and second copper coatings from the entirety of both the first and second sides of the dielectric substrate except for in a region between the first and second holes on one of the first or the second sides of the dielectric substrate using a photolithographic process with a positive or negative photoresist, wherein the remaining second sub-portion of the first or second copper coatings connects the conductive adhesive in the first and second holes together.

25. (New) The method of claim 24, wherein the first and second nubs of the conductive material have uniform height.
26. (New) The method of claim 25, wherein the step of removing the first sub-portion of the first and second copper coatings includes etching the first and second copper coatings by cold cupric chloride etching.
27. (New) The method of claim 26, wherein at least one of the first and second copper coatings is formed as two layers of different metals.
28. (New) The method of claim 27, wherein at least one circuit trace is formed from at least one of first and second copper coatings.
29. (New) The method of claim 28, wherein the conductive adhesive is dispensed into the first and second holes in multiple passes.
30. (New) The method of claim 29, wherein residue of the conductive adhesive is removed by polishing.

31. (New) The method of claim 30, further including laminating the first and second nubs of the conductive material with substantially similar nubs formed in another dielectric substrate.
32. (New) The method of claim 30, further including positioning the dielectric substrate between two circuitized members, wherein each of the two circuitized members includes a different circuit trace on one face and a pair of bonding pads on an opposite face and the dielectric substrate is disposed between the faces having the bonding pads, and laminating the dielectric substrate and the two circuitized members together to form the printed wiring board.
33. (New) The method of claim 28, wherein residue of the conductive adhesive is removed by chemical polishing.
34. (New) The method of claim 28, wherein the dielectric substrate includes a polyimide.
35. (New) The method of claim 28, wherein the dielectric substrate includes a polytetrafluoroethylene.
36. (New) The method of claim 28, wherein the conductive adhesive is a filled thermoset polymer.
37. (New) The method of claim 28, wherein the conductive adhesive is a filled thermoplastic polymer.
38. (New) The method of claim 28, wherein the conductive adhesive is a filled polymer.

39. (New) The method of claim 28, wherein the conductive adhesive is a filled epoxy.

40. (New) A method for forming a core member for use in laminating to another core member to form a printed wiring board, comprising:

forming a first copper coating on a first side of a dielectric substrate;

forming a second copper coating on a second side of the dielectric substrate, wherein the first and second sides are located on opposite sides of the dielectric substrate;

forming first and second holes, wherein each of the first and second holes extends through all three of the first copper coating, the dielectric substrate, and the second copper coating;

plating the first and second holes with a conductive metal to form a conductive path in each of the first and second holes between the first and second copper coatings;

filling the entirety of each of the first and second holes with a conductive material, wherein the conductive material is heated to enhance its flow characteristics;

heating the conductive adhesive to about 130 degrees Celsius to advance the cure to about 80% of a complete cure;

thinning the first and second copper coatings from the entirety of both the first and second sides of the dielectric substrate;

removing the thinned first and second copper coatings from the entirety of both the first and second sides of the dielectric substrate except for in a first region from the first hole in a direction away from the first hole on one of the first or the second sides of the dielectric substrate, and in a second region from the second hole in a direction away from the second hole on one of the first or the second sides of the dielectric substrate; and

laminating the first and second nubs of the conductive material with substantially similar nubs formed in another dielectric substrate.

41. (New) A method for forming a core member for use in laminating to another core member to form a printed wiring board, comprising:

forming a first silver copper coating on a first side of a dielectric substrate;

forming a second copper coating on a second side of the dielectric substrate, wherein the first and second sides are located on opposite sides of the dielectric substrate;

forming first and second holes, wherein each of the first and second holes extends through all three of the first copper coating, the dielectric substrate, and the second copper coating;

plating the first and second holes with a conductive metal to form a conductive path in each of the first and second holes between the first and second copper coatings;

filling the entirety of each of the first and second holes with a conductive material, wherein the conductive material is heated to enhance its flow characteristics, and in which the conductive material fill includes a conductive polymer filled with one of solder, copper particles, silver particles, plated filler particles, or mixtures thereof;

heating the conductive adhesive to about 130 degrees Celsius to advance the cure to about 20% of a complete cure;

thinning the first and second copper coatings from the entirety of both the first and second sides of the dielectric substrate;

removing the thinned first and second copper coatings from the entirety of both the first and second sides of the dielectric substrate except for in a region between the first and second holes on one of the first or the second sides of the dielectric substrate, wherein the remaining second sub-portion of the first or second copper coatings connects the conductive adhesive in the first and second holes together; and

positioning the dielectric substrate between two circuitized members, wherein each of the two circuitized members includes a different circuit trace on one face and a pair of bonding pads on an opposite face and the dielectric substrate is disposed between the faces having the bonding pads, and laminating the dielectric substrate and the two circuitized members together to form the printed wiring board.